UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/864,829	05/24/2001	Paul V. Werme	83019	2366

23501 7590 01/06/2006	EXAMINER
NAVAL SURFACE WARFARE CENTER, DAHLGREN DIVISION	KISS, ERIC B

	ART UNIT	PAPER NUMBER
NAVAL SURFACE WARFARE CENTER, DAHLGREN DIVISION OFFICE OF COUNSEL, CODE XDC1 17320 DAHLGREN ROAD DAHLGREN, VA 22448-5110	2192	

DATE MAILED: 01/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>22 September 2005</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>2-37</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>2-37</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>19 September 2001</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

1.   The reply filed 22 September 2005 has been received and entered. Claims 2-37 are

pending.

Drawings

2.   The replacement drawing sheets filed on 19 September 2001 are acceptable. The

objections to the drawings are withdrawn.

Response to Amendment

3.   Applicant's amendments to the specification appropriately address the objection to the

specification based in improper usage of trademarks. Accordingly, this objection is withdrawn

in view of Applicant's amendments.

Response to Arguments

4.   Applicant's arguments filed 22 September 2005 have been fully considered but they are

not persuasive.

        The examiner maintains that Brune discloses multiple specification files. As an example,

Figure 4 on p. 282 illustrates a "first" specification file defining an SGI/Cray T3E that is

included by reference in the illustrated "second" specification file illustrated in Figure 3 on p.

282 (see the seventh line of the code listing in Figure 3, "INCLUDE 'ZIB_T3E'"). The Figure 3

specification file clearly provides application software system structure, capabilities,

dependencies, and requirements (the file specifies three distributed SGI/Cray T3E sites

connected by ATM channels with a nominal bandwidth of 10 Mbps).

Claim Rejections - 35 USC § 102

5.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this
> or a foreign country, before the invention thereof by the applicant for a patent.

6.   Claims 2-4, 6, 7, 12, 17, 19-22, 24, 25, 30, 35, and 37 are rejected under 35 U.S.C. 102(a)

as being anticipated by Matthias Brune, et al., "A Resource Description Environment for

Distributed Computing Systems," IEEE, Proc. of 8th International Symposium on High

Performance Distributed Computing HPDC-8, 1999, pp. 279-286 (hereinafter [Brune99]).

As per claim 2, [Brune99] discloses preparing first specification files in a language

providing a syntax adapted to describe system and network specification information (see, for

example, section 4 on pp. 281-282); preparing second specification files in the language

providing application software system structure, capabilities, dependencies, and requirements for

the M managed characteristic applications (see, for example, section 4 on pp. 281-282);

compiling the first and second specification files to thereby generate specification objects (see,

for example, section 4.3 on p. 282); and providing an application programming interface (API)

permitting the functional elements to access the specification information using API calls (see,

for example, section 6.1 on pp. 283-284).

As per claim 20, [Brune99] discloses preparing first specification files in a language

providing a syntax adapted to describe system and network specification information (see, for

example, section 4 on pp. 281-282); preparing second specification files in the language

providing application software system structure, capabilities, dependencies, and requirements for the M managed characteristic applications (see, for example, section 4 on pp. 281-282); compiling the first and second specification files to thereby generate specification objects organized into a system specification library (see, for example, section 4.3 on p. 282); and linking the program control function and the resource manager function to the system specification library (see, for example, section 6 on pp. 283-285).

As per claims 3 and 21, [Brune99] further discloses the second specification files describing the application software system structure in terms of systems, subsystems, paths, applications and processes (see, for example, section 4 on pp. 281-282).

As per claims 4 and 22, [Brune99] further discloses the second specification files further providing Quality of Service (QoS) requirements on an event basis (see, for example, section 4 on pp. 281-282).

As per claims 6 and 24, [Brune99] further discloses the second specification files further providing data flow path requirements in terms of both structure and Quality of Service (QoS) requirements for the M managed characteristic applications (see, for example, section 4 on pp. 281-282).

As per claims 7 and 25, [Brune99] further discloses one of the M managed characteristic applications comprising a scalable application (see, for example, section 4 on pp. 281-282).

As per claims 12 and 30, [Brune99] further discloses the second specification files providing environmental variables associated with the M managed characteristic applications (see, for example, section 4 on pp. 281-282).

As per claims 17 and 35, [Brune99] further discloses the second specification files

providing application states defined in terms of received instrumentation data values, the length

of time a respective application has been running, and/or the set of processes that are currently

running (see, for example, section 4 on pp. 281-282).

As per claims 19 and 37, [Brune99] further discloses one of the M managed characteristic

applications comprising a scalable application (see, for example, section 4 on pp. 281-282); and

one of the second specification files identifying the type of scalability practiced by the scalable

application (see, for example, section 4 on pp. 281-282).

Claim Rejections - 35 USC § 103

7.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

8.   Claims 5, 8, 23, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over

[Brune99], as applied above to claims 2 and 20, and further in view of Brendan Jennings, et al.,

"FIPA-compliant agents for real-time control of Intelligent Network traffic," 1999, Elsevier

Science B.V., Computer Networks 31, pp. 2017-2036 (hereinafter [Jennings99]).

As per claims 5, 8, 23 and 26, although [Brune99] fails to expressly disclose the second

specification files further providing survivability requirements for the M managed characteristic

applications or one of the M managed characteristic applications comprising a fault tolerant

application, where the degree of fault tolerance is selectable by a user, [Jennings99] teaches

survivability requirements, in terms of an explicitly specified fault tolerance in the form of

specification language (ACL) extensions (see, for example, section 5.3.2.1 on p. 2033).

Therefore, it would have been obvious to one of ordinary skill in the computer art at the time the

invention was made to modify the methods of [Brune99] to include such survivability/fault-

tolerance specifications as per the teachings of [Jennings99]. One would be motivated to do so

to provide a fundamental property of real-time systems.

9.   Claims 9 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over

[Brune99], as applied above to claims 2 and 20, and further in view of U.S. Patent No. 6,578,005

to Lesaint et al.

        As per claims 9 and 27, [Brune99] discloses such methods but fails to expressly disclose

one of the M managed characteristic applications comprising a selectable priority application.

However, *Lesaint et al.* teaches such selectable priority in the context of a resource allocator

(see, for example, col. 12, line 52, through col. 13, line 9). Therefore, it would have been

obvious to one of ordinary skill in the computer art at the time the invention was made to modify

the methods of [Brune99] to include such selectable priority as per the teachings of *Lesaint et al.*

One would be motivated to do so, for example, to ensure that safety-critical tasks are handled in

an expedited manner.

10.   Claims 10, 11, 15, 16, 18, 28, 29, 33, 34, and 36 are rejected under 35 U.S.C. 103(a) as

being unpatentable over [Brune99], as applied above to claims 2 and 20, and further in view of

Karl Czajkowski, et al., "A Resource Management Architecture for Metacomputing Systems," Proc. of 4th IPPS/SPDP Workshop on Job Scheduling Strategies for Parallel Processing, 1998, 19 pages (hereinafter [Czajkowski98]).

As per claims 10, 11, 15, 16, 28, 29, 33, and 34, although [Brune99] fails to expressly disclose identifying script files/signals associated with shut down of a managed characteristic application or the specification files providing startup and shutdown dependencies, [Czajkowski98] teaches such startup/shutdown handling (see, for example, section 5 on pp. 10-13), and thus, it would have been obvious to one of ordinary skill in the computer art at the time the invention was made to modify the methods of [Brune99] to include such handling. One would be motivated to do so, for example, to provide for accurate updates of resource status and availability for efficient scheduling.

As per claims 18 and 36, [Brune99] further discloses one of the M managed characteristic applications comprising a scalable application (see, for example, section 4 on pp. 281-282). [Brune99] fails to expressly disclose one of the second specification files identifying whether the scalable application can be restarted upon failure and the minimum and maximum number of copies of the scalable application that can be instantiated in the distributed environment. However, [Czajkowski98] teaches specifying copy counts for scalable applications (see, for example, section 4 on pp. 8-10) and further suggests specifying restart conditions in the event of failures (see, for example, the last paragraph of section 7 on p. 17). Therefore, it would have been obvious to one of ordinary skill in the computer art at the time the invention was made to modify the methods of [Brune99] to include such count information and failure handling as per

the teachings of [Czajkowski98]. One would be motivated to do so, for example, to promote

efficient resource allocation and provide compensation for scheduling failures.

11.   Claims 13, 14, 31, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over

[Brune99], as applied above to claims 2 and 20.

As per claims 13, 14, 31, and 32, [Brune99] teaches as an alternate embodiment (related

work) providing command line arguments (requiring resolution at application runtime)

associated with the M managed characteristic applications (see, for example, section 2 on pp.

279-280). Therefore, it would have been obvious to one of ordinary skill in the computer art at

the time the invention was made to modify the methods of [Brune99] to include such related

techniques, for example, as a means to efficiently handle dynamic information.

Conclusion

12.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing

date of this final action.

13.   Any inquiry concerning this communication or earlier communications from the

Examiner should be directed to Eric B. Kiss whose telephone number is (571) 272-3699. The

Examiner can normally be reached on Tue. - Fri., 7:00 am - 4:30 pm. The Examiner can also be

reached on alternate Mondays.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's

supervisor, Tuan Dam, can be reached on (571) 272-3695. The fax phone number for the

organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry of a general nature should be directed to the TC 2100 Group receptionist:

571-272-2100.

EBK/EBK
January 4, 2006

TUAN DAM
SUPERVISORY PATENT EXAMINER